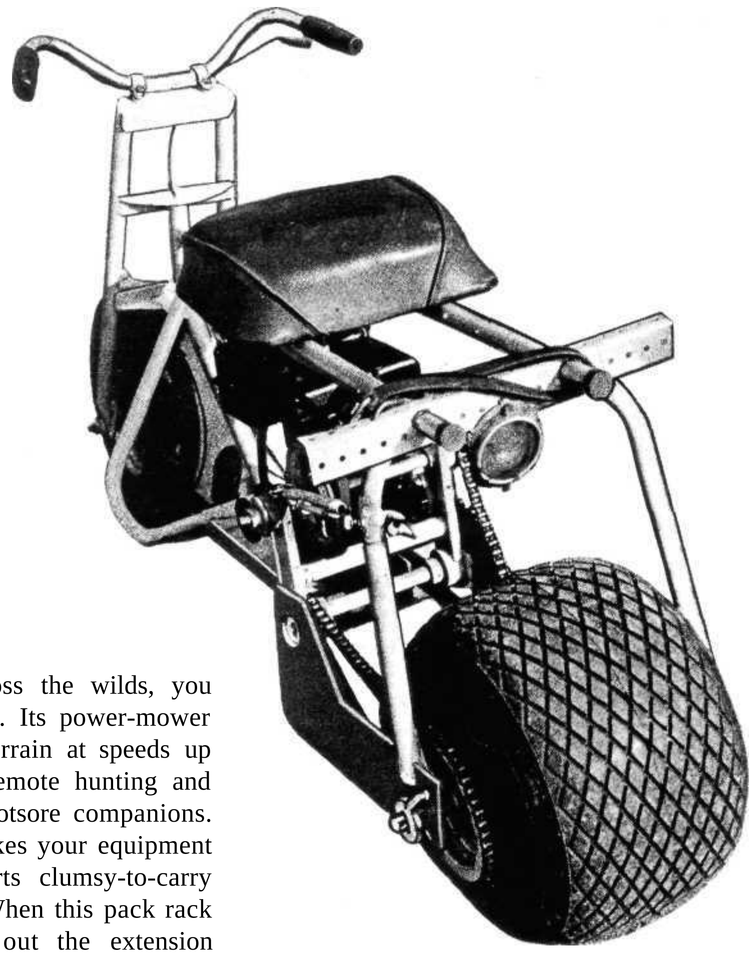
Fat-tire scooter for sportsmen



• FOR TRANSPORTATION across the wilds, you can't beat this iron packhorse. Its power-mower engine sends it over rough terrain at speeds up to 10 m.p.h.—gets you to remote hunting and fishing sites ahead of your footsore companions.

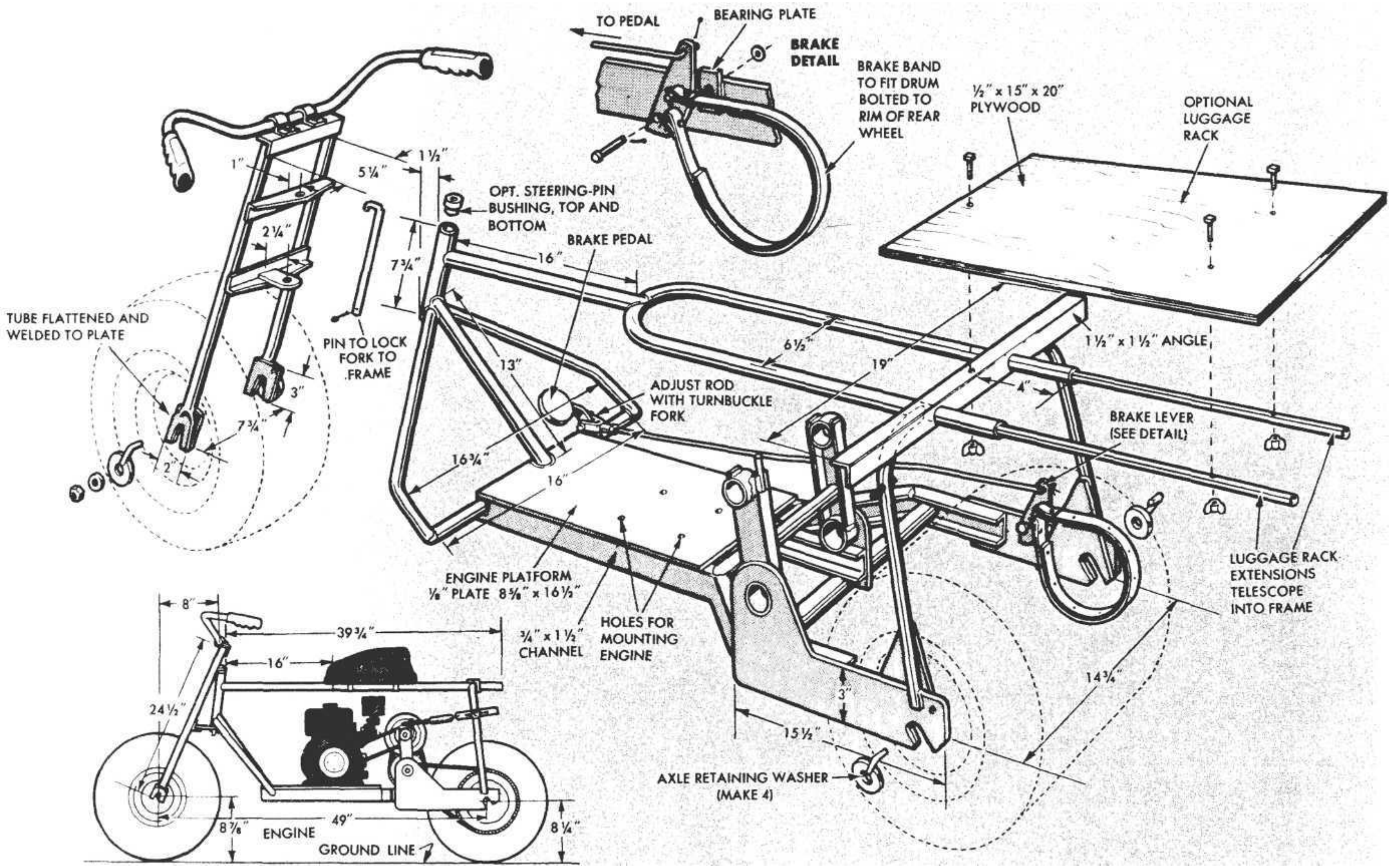
An extendable rear rack takes your equipment load off your back, and carts clumsy-to-carry game back to the campsite. When this pack rack isn't needed, you just slip out the extension pipes, or just leave them in place, capping the frame-pipe ends with crutch tips to keep the extensions from working out.

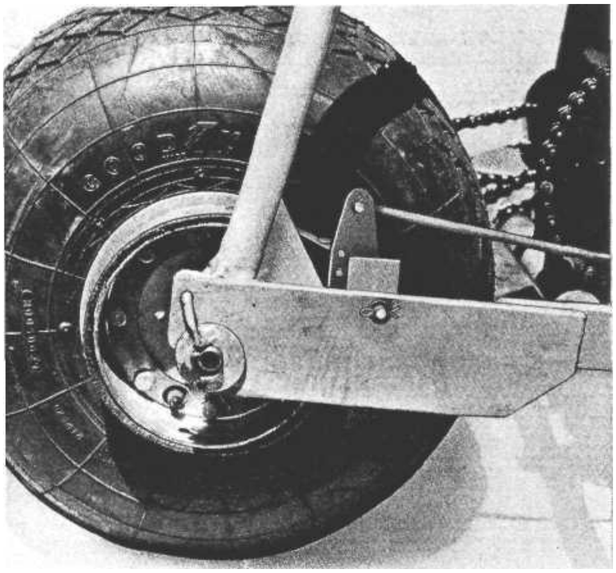
Though it's possible to up the speed by switching the transmission sprockets (putting the large sprocket on the top shaft and the small one on the bottom), the scooter's not intended for public roads. You store it at your hunting cabin. Or truck it to road's end in your station wagon or the trunk of a large car. The whole front fork of the scooter detaches for easier loading.

Since the overall weight is around 150 lbs., you won't want to back-pack it very far—should you run into a stretch of country that forces you to dismount. For portage, in such cases, you just remove the fork, strap it on top of the seat, disengage the drive belt, lift the scooter by the front stirrups and "wheelbarrow" it.

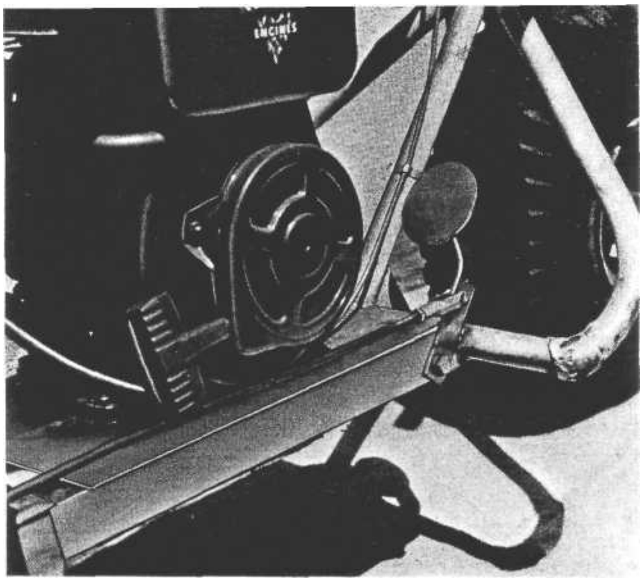
The frame design is simple but logical. Those

Its low speed and rugged construction are ideal for wilderness travel—
and those fat tires assure a smooth ride with sure-footed traction
even on rough, trackless terrain


TO PEDAL
BEARING PLATE
BRAKE DETAIL
BRAKE BAND TO FIT DRUM BOLTED TO RIM OF REAR WHEEL
½" x 15" x 20" PLYWOOD
OPTIONAL LUGGAGE RACK
1½"
5¼"
1"
2¼"
OPT. STEERING-PIN BUSHING, TOP AND BOTTOM
BRAKE PEDAL
16"
7¾"
TUBE FLATTENED AND WELDED TO PLATE
PIN TO LOCK FORK TO FRAME
3"
7¾"
2"
13"
6½"
19"
1½" x 1½" ANGLE
4"
ADJUST ROD WITH TURNBUCKLE FORK
BRAKE LEVER (SEE DETAIL)
16¾"
16"
ENGINE PLATFORM ⅛" PLATE 8⅝" x 16½"
¾" x 1½" CHANNEL
HOLES FOR MOUNTING ENGINE
LUGGAGE RACK EXTENSIONS TELESCOPE INTO FRAME
14¾"
3"
15½"
AXLE RETAINING WASHER (MAKE 4)
8"
39¾"
16"
24½"
49"
8⅞"
ENGINE
GROUND LINE
8¼"



The brake lever is pivoted on top of the rear wheel's hub plate, with a bearing plate between for clearance. The band passes around a drum bolted to the wheel rim. The ends are looped over a pin protruding from the lever's rear face



The brake rod passes forward from the lever to the brake pedal at the right stirrup. Note how the pedal angles inward for maximum foot room—and to avoid snagging on underbrush. The fork permits rod adjustment

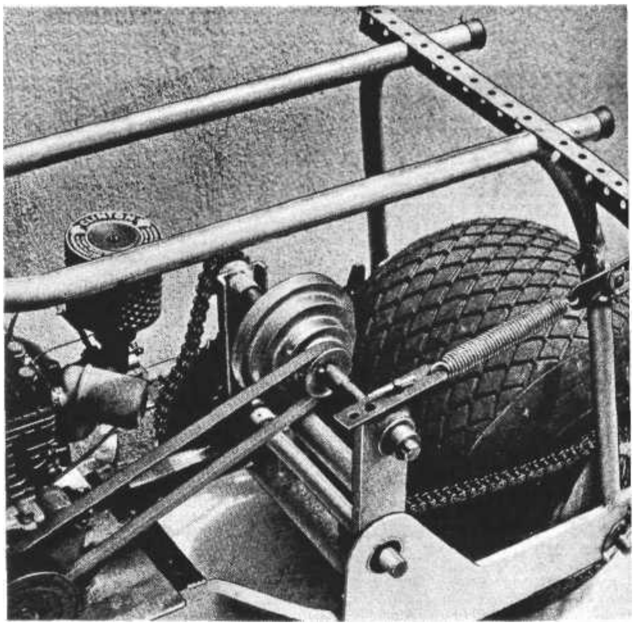
stirrups protect your feet from jutting rocks. The side braces spread low underbrush to let the scooter pass.

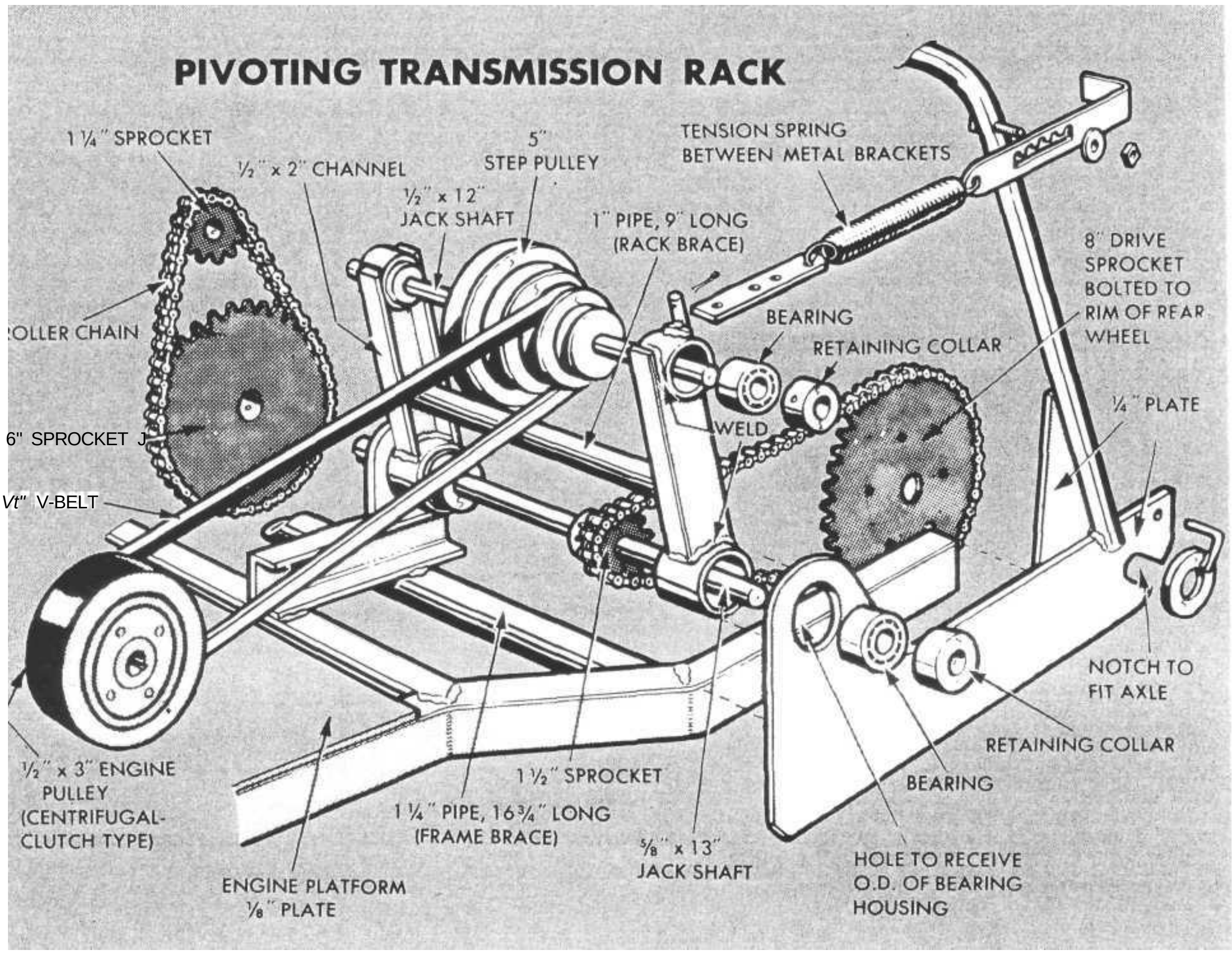
You needn't follow the dimensions exactly as given in the plans. The model shown is a basic machine, intended to demonstrate how simply a rugged scooter can be made. While the frame shown is welded up from 1-in. furniture tubing



The seat attaches to the frame with adjustable brackets, shifts back and forth for most comfortable position. Cord coiled around the cross bar is the condenser wire, extended so it can be attached to a hand-held emergency switch that kills the motor

(for light weight) there's no reason why you couldn't use common 3/4-in. pipe or rigid conduit. Also, to avoid the bending, you could join straight lengths with angle iron. Such joints should, however, be reinforced with gussets, since the frame must stand up to severe stresses from jolting over rough ground. You'll also need formed channel for the frame base and transmission rack and steel plate for the engine deck. It's best if axles aren't threaded at the ends, since





there's too much chance of their being "peened" by scraping past stones. Rather, they should be retained with cotter pins and washers. Special pivoting retainers can be made by welding an L-shape of 1/4-in. rod to one face of a washer large enough to slip onto the axle you've chosen. The tail of the L enters a hole in the plate, holding the axle in place in the notch. (The hub nut shown on the front axle is an alternate treatment.)

But the main feature is that rear wheel. The 12-by-16 aircraft-type Terra-Tire has no tube and is kept at only 12 lbs. pressure. It simply cups itself around small boulders and logs in its path, smoothing your ride. (An 8-in. ground clearance keeps the frame from hanging up on these small obstructions.) It's virtually impossible to spin such a tire in loose soil or mud, or on ice. It floats along on top of sand, making this trail-blazer a practical beach buggy, as well.

The front tire's a 6-by-6 snow-and-mud tread; you keep its tube at 15-20 lbs. pressure. Both these tires can be obtained from an industrial tire dealer or (if you're lucky) at a war surplus store, where you might also find the various pulleys and sprockets. Wide-base rims are available in both pressed steel and aluminum.

uprights are tubing

The uprights of the front fork section are also 1-in. furniture tubing or 3/4-in. pipe. The cross members, including the two pivot brackets, are angle iron (or bed rails). These are spaced so that the frame's steering column will seat snugly between them. The lock pin is then dropped through. This pin is 5/8-in.-dia. rod, with an L of 1/4-in. rod welded at the top. This hooks over the upper pivot bracket to keep the pin from dropping through to the ground. It also provides a handle to facilitate withdrawal, once the cotter pin at the opposite end has been removed.

Unless you can lap this pin into the frame column for a snug fit, it should ride within bushings pressed into both ends of the column pipe. In the model shown, 5/8-in. I.D. Oilite bushings were used.

The transmission rack consists of two channel uprights with bearing housings welded at both ends. These housings are merely short lengths of pipe with an inside diameter that will provide a snug fit for the bearings you use. The two uprights are welded to opposite ends of a pipe brace; the jack shafts are slipped through the bearings and held fast with retaining collars. This entire assembly is mounted in the frame by means of simple mechanical pivots. The lower bearing housings protrude into holes in the support plates at each side. The pivoting feature permits adjustment to keep the drive belt taut.

The rack is tensioned against the belt by means of a spring hooked between two flat-iron brackets. The front bracket is drilled to slip over a pin projecting from the top of the rack. The rear bracket is bolted to the frame. Whether you add a screen (or shroud) around the transmission depends on the use (or abuse) you'll give the scooter.

If you're using a power-mower engine, it may already be equipped with a centrifugal or automatic clutch. If not, you can order one from the V-Plex Clutch Co. of Hagerstown, Ind. The scooter shown uses a four-cycle engine with a self-adjusting V-Plex, and the engine-to-wheel ratio is 25-30 to 1 (depending on the clutch diameter—which in turn depends on the load at a given moment). A slightly higher ratio (around 35 to 1) is recommended for a two-cycle engine.

dead man's control

Keep in mind that this rig is really a two-wheel tractor. If you start it up with the throttle advanced, it'll take off instantly—with grim determination, and a mind of its own. So it's a good idea to have an emergency switch within easy reach—perhaps a hand-held, spring-loaded dead man control which will douse the engine the moment you release your grip. You could part the condenser wire and insert a pushbutton switch, mounting it on the handlebar so you can keep your finger on the button while you steer. If the button is released, it breaks the ignition circuit. Or, you might use a hand-throttle with a sufficiently powerful return spring to starve the carburetor when released.

Engine compression supplies adequate braking, but it's a good idea to equip the rear wheel with a brake drum so you can install the pedal brake shown.

Remember also that it's no trick to make the shafts on the idler pulleys long enough to use them as power take-offs for a water pump or generator. So if anybody shouts "Get a horse!" at you when you chug past them on the trail, you can grin smugly. What pack animal can double as a pumping station or camp-site power house? And *this* mount is cheap to feed. With the 2-1/2-hp engine shown, a gallon of gas should scoot you through the wilds for nearly six hours.